

IN THE CLAIMS

1. (withdrawn) A method for generating thrust from a gas turbine engine using a pulse detonation system, said method comprising:

introducing fuel and air to the engine;

mixing fuel and air in a pulse detonation system deflagration chamber positioned radially outward from an engine exhaust centerbody; and

detonating the fuel and air mixture within the pulse detonation system to facilitate increasing the temperature and pressure within the engine and to generate engine thrust.

2. (withdrawn) A method in accordance with Claim 1 wherein the engine includes a core engine, mixing fuel and air in a pulse detonation system deflagration chamber further comprises:

supplying fuel and air to the deflagration chamber downstream from the core engine such that the chamber is operated in a fuel-rich mode; and

accelerating the fuel-air mixture from the deflagration chamber to a detonation chamber downstream from the deflagration chamber.

3. (withdrawn) A method in accordance with Claim 2 wherein accelerating the fuel-air mixture further comprises translating a reverse flap that is downstream from the detonation chamber from a first position during a first mode of engine operation to a second position during a second mode of engine operation.

4. (withdrawn) A method in accordance with Claim 1 wherein the engine includes a core engine, mixing fuel and air in a pulse detonation system deflagration chamber further comprises mixing fuel and air in a pulse detonation system deflagration chamber that extends circumferentially around the exhaust centerbody.

5. (withdrawn) A method in accordance with Claim 1 further comprising:
positioning the centerbody in a first position during a first mode of engine operation;
and

translating the centerbody axially upstream to a second position during a second mode of engine operation.

6. (currently amended) A pulse detonation system for a gas turbine engine, said pulse detonation system configured to create a temperature rise and a pressure rise within the gas turbine engine and to increase gas turbine engine thrust, said pulse detonation system comprising:

at least one deflagration chamber radially outward from an engine exhaust centerbody; and

a detonation chamber downstream from and in flow communication with said deflagration chamber, said detonation chamber configured to detonate a fuel mixture.

7. (original) A pulse detonation system in accordance with Claim 6 wherein said pulse detonation system is downstream from a core engine powering the gas turbine engine.

8. (canceled)

9. (canceled)

10. (previously amended) A pulse detonation system in accordance with Claim 6 further comprising a reversed flap configured to translate axially from a first position during a first engine operating mode to a second position during a second engine operating mode.

11. (canceled)

12. (original) A pulse detonation system in accordance with Claim 6 wherein said deflagration chamber is annular and extends circumferentially around the engine exhaust centerbody.

13. (original) A pulse detonation system in accordance with Claim 6 wherein said at least one deflagration chamber comprises a plurality of deflagration chambers spaced circumferentially around the engine exhaust centerbody.

14. (previously amended) A gas turbine engine comprising:

an inlet portion;

an exhaust portion positioned co-axially with said inlet portion;

a centerline axis of symmetry;

an exhaust centerbody concentrically aligned with said exhaust portion and extending axially along said centerline axis of symmetry into said exhaust portion; and

a pulse detonation system positioned between said inlet portion and said exhaust portion, said pulse detonation system configured to create a temperature rise and a pressure

rise within said engine and to increase engine thrust, said pulse detonation system comprising:

at least one deflagration chamber radially outward from said engine exhaust centerbody; and

a detonation chamber downstream from and in flow communication with said at least one deflagration chamber, said detonation chamber configured to detonate a fuel-air mixture.

15. (original) A gas turbine engine in accordance with Claim 14 further comprising a core engine configured to power said engine, said centerbody extending downstream from said core engine, said pulse detonation downstream from and in flow communication with said core engine.

af 16. (original) A gas turbine engine in accordance with Claim 15 wherein said at least one pulse detonation system deflagration chamber is annular and extends circumferentially around said engine centerbody.

17. (original) A gas turbine engine in accordance with Claim 15 wherein said at least one pulse detonation system deflagration chamber comprises a plurality of deflagration chambers spaced circumferentially around said engine centerbody.

18. (original) A gas turbine engine in accordance with Claim 15 wherein said centerbody configured to translate axially from a first position during a first mode of engine operation, and a second position during a second mode of operation.

19. (canceled)

20. (previously amended) A gas turbine engine in accordance with Claim 15 wherein said pulse detonation system further comprises a reversed flap configured to translate axially from a first position during a first engine operating mode to a second position during a second engine operating mode.
